GENERAL AND REVENUE SECRETARIAT.

1913-14
(Genl- Misc.)

File No. 213-13

Serial Nos. 1-20

Papers Filed.

Month April 1914

SUBJECT.

Invention for 'An Improved Filter for ~~the~~ Slimes Pulp and the like by Mr. Alfred James, Mining Engineer, London.

PREVIOUS REFERENCES.	LATER REFERENCES.
	G.m. 152-18 Sls 1-3.

K-N-Krishnan & Co

G.R.S. 11] 1913-14.

GENERAL AND REVENUE SECRETARIAT.

(Gen: Mis)

NOTES.

Gen File No. 213 13/14.

FILE HEADING.

Invention for "An improved Filter for Slimes Pulp and the like" by Mr. Alfred James of 2 Broad Street Place, London, England, Mining Engineer.

From

Messrs H. V. Williams & Co, Calcutta.

No. 2563-C Dated 11. 11. 13 Received 14. 11. 13

Diary No. 3240	Enclos. Appl" +Rs 11/- Spare Copies.	Serial No. /

BRIEF ABSTRACT OF LETTER.

Forward an application for leave to file a specification of the above named invention and a Power-of-Attorney and remit Rs 11/- as application and Stamp fees.

NOTES AND ORDERS.

The usual drafts are subd.

EA 4/12/13 PR

Issue

5.12.13.

NOTES—First Sheet.

GPB—35,000—15-6-12

Serial No.	
2	To the Dy Commr, Hty Deptt, Bangalore. No. G 4327 dt 11-12-13 Forwards Rs 10/- received with the above, and requests acknowledgment.
3	To the Supdt of Stamps. No. G 4328 dt 11-12-13. Forwards the Power-of-attorney rec^d with Sl 1 for being impressed with Stamp of the value of Re 1.
4	To the State Geologist. No. G 4329 dt 11-12-13. Forwards for report the application received with Sl 1.
5	From the Supdt of Stamps. No. 113 dt 15-12-13. Returns duly stamped the Power-of-attorney forwarded with Sl 3 & requests acknowledgment.
6	From the D.C. Hty Deptt, Bangalore. No. 1042/175 dt 13-12-13. Acknowledges the receipt of the amount forwarded with Sl. 2.
7	From the State Geologist. No. 1467 dt 20-12-13. With refce to Sl 4, reports that the leave applied for for filing the specification may be granted. The usual drafts are subd. EA hrs 8/1/14 9 Issue KR 9/1/14
8	To Mr. Alfred James, England- No. G 5429 dt 17-1-14 Authorises him to file a specifn of his invention
9	To Messrs H.V. Williams & Co. No. G 5430 dt 17-1-14 Forwards a copy of the above.
10	To the Supdt of Stamps. No. G 5431 dt 17-1-14. Acknowledges the receipt of the stamped power of Attorney forwarded with Sl 3.

NOTE—Contn. sheet.

General and Revenue Secretariat.

Gen File No. 213 of 1913.

Serial No.	
11	From Messrs H.V. Williams . dy 22.1.14. Forwards Rs 30/- and 4 copies of the Specifn and request the filing of the Specifn. The amount has been received. The usual drafts are put up. The Certificate at foot of the G.O. (draft and fair) requires signature. Subd 24 Jan 14/2/14
11A	To the Compiler, Mysore Gazette. No. G. 6661 dy 20.2.14 Notifies the filing of the Specifn.
12	To Messrs H.V. Williams & Co. No. G. 6662 dy 20-2-14 Forwards a copy of the above.
13	To D.C. Wy, Bangalore. No. G. 6663 dy 20.2.14 Forwards Rs 30/- recd with Sl 11.
14	To the State Geologist, Supdt, Govt Museum & the Chief Engr. No. G. 6664-6 dy 20.2.14 Forwards a copy of the Specifn.
15	From the D.C. Wy, Bangalore. No. 1043 dy 20.2.14 Acknowledges receipt of the amount forwarded with Sl 13.
16	From the Supdt, Govt Museum. No. 41 dy 24.2.14
17	Do — State Geologist - 1974 dy 26.2-14 Acknowledge the receipt of the Specifn forwarded with Sl. 14.
18	From Messrs H.V. Williams & Co. dy 24.2.14. Request the return of the G.O. (Sl 8) with the certificate at foot duly filled in & signed.

GPB—60,000—7-11-13

General and Revenue Secretariat.

Gen File No. 213 of 1913.

Serial No.	
	Draft returning the S.O. is subd. The certificate at foot thereof has been duly filled in and signed.
	SA Imm 9.8.14
19	To Messrs H.V. Williams. No. C7501 dy 17.8.14
	Forwards the Certificate as requested in the above.
20	From the Chief Engineer. No. 399/2268 dy 9.8.14.
	Acknowledges the receipt of the specification forwarded with Sl. 14.
	The correc may now be filed.
	Subd SA 25.4.14 BR

No.2563-C.

V.
14/11/13

From

H. V. Williams & Co.,
Patent Agents & Engineers,
8, Esplanade East, Calcutta.

To

The Secretary to the Government of
H. H. the Maharajah of Mysore,
General & Revenue Departments,
B a n g a l o r e.

DIARY No. 3240
1913-1914
SECTION Genl. Mis
No. 213 of 1913-14
No. 1

Dated, the 11th November 1913.

Sir,

Enclosed herewith we have the honour to forward an application, with drawings and a Power of Attorney in our favour, by Mr. Alfred James, of 2 Broad Street Place, London, England, Mining Engineer, for leave to file a specification of his invention entitled "An Improved Filter for Slimes Pulp and the like".

As stated in the first paragraph of the Application a patent has been applied for and obtained in Great Britain.

By postal Money Order we this day remit you the sum of Rs.11/- in payment of the above application fee and the stamp duty on the Power of Attorney.

We have the honour to be,

Sir,

Your most obedient Servants,

H. V. Williams & Co.

Registered
Enclosures

APPLICATION.

To

The DEWAN of MYSORE.

THE APPLICATION of ALFRED JAMES, of 2, Broad Street Place, in the City of London, England, Mining Engineer, Assignee of George Ridgway of the Great Bolder Gold Mine, Kalgoorlie, Western Australia, for leave to file a Specification under Part I of the Inventions and Designs Regulation, 1894.

1. George Ridgway of whom the applicant is the assignee has obtained Letters Patent in the United Kingdom No.10,731 dated and sealed as of the 6th day of May 1912, and actually sealed on the 24th day of July 1913.

2. To the best of the information and belief of the applicant, the invention is new within the meaning of Part I of the Inventions and Designs Regulation, 1894, and no circumstance exists which, if the applicant be authorized to file a Specification and files it in accordance with that Part, will disentitle him to an Exclusive Privilege thereunder in respect of the invention.

3. The following is a description of the invention:-

This invention relates to an automatic reciprocating slimes filter for the treatment of ores or pulp by means of filtration or similar processes in which it is necessary to separate the liquid from the solid portion and to wash and discharge the same, the action being automatic and continuous.

This object is attained by certain mechanism whereby filtering frames are immersed in a tank containing the pulp to be filtered. The said immersion is extended over a sufficient period of time to permit of a cake of pulp of the required thickness adhering to the said filtering frames, this adherence being caused by a suction or vacuum being applied to the inside of the filtering frames. The filtering frames are then removed from the pulp tank and immersed in another tank containing water or wash solution as required, the suction or vacuum remaining on the filter frames during this immersion and the period of immersion being sufficiently extended to permit of the pulp being properly washed. After the washing is completed the filtering frames are removed from the wash tank and during their passage back to the pulp tank, certain cocks or valves are brought into contact with mechanism whereby the suction or vacuum connections are closed for a short period, and a connection with compressed air is simultaneously opened, thus compressed air is admitted to the filtering frames and dislodges the cakes of pulp from their surfaces into a residue tank and leaves them ready to receive another charge of pulp.

The closing of the air valve and the re-opening of the vacuum valve are likewise nearly simultaneous. The solutions are drawn through the vacuum valve and delivered by the vacuum pump where required.

In order that the invention may be more readily understood it will now be described with reference to the accompanying drawings, in which:-

Figure 1 is a side elevation.

Figure 2 is a plan of the improved slimes filter.

Figures 3 and 4 are detail views of a feature of the invention illustrating means for connecting and suspending the filter frames from a special beam, such also being connections whereby vacuum and compressed air are supplied to the filter frames.

Figure 5 is a vertical section of the valve employed in maintaining the level of water or pulp in the tanks.

Figure 6 is a side elevation, and

Figure 7 a front elevation, illustrating devices embodied in this invention.

Figures 8 and 9 show sectional elevations of buckets which form a part of the automatic reversing gears.

Figure 10 is a side elevation illustrating the positions of the vacuum and compressed air valves and connections and the manner of operation.

Figure 11 is a side elevation of the vacuum valve.

Figure 12 is a vertical central section of the compressed air valve and

Figure 13 is an end elevation of the said air valve.

Figure 14 is a side elevation of the device or trigger adapted to control the opening of the compressed air valve.

Figure 15 is a plan of the agitator blades.

Figure 16 is a section of agitator blades and shaft with sufffing box and gland.

Figure 17 is an elevation of stuffing box and gland, and Figure 18 is a part sectional elevation of the filter frames employed.

Like reference numerals indicate the same or corresponding parts in all the figures.

The apparatus or filter consists of tanks with agitators to hold gold bearing slimes and wash water, filter frames through which slime is filtered, rocking arms to carry the frames from tank to tank, gear for transmitting power from countershafts to rocking arms and agitators, a tank with agitator to reduce residues to a fluid pulp, automatic reversing gear, and suitable devices and pipe connections communicating with and actuating suitable vacuum and compressed air valves.

The wash and pulp tanks 1 and 1a respectively are mounted on a frame or retaining wall 2 and are preferably rectangular in shape.These tanks 1 and 1a are fitted with suitable agitators comprising a pair of agitator blades 3 bolted or otherwise secured to the top of the vertical shafts 4. Stuffing boxes 5 carry the top end of the agitator shafts 4 and all these are securely bolted to the underside 6 of the tanks 1 and 1a. A square collar 7 is shrunk on to each agitator shaft 4 being cut on its lower side to engage with the bevelled top 8 of the stuffing box 5 projecting through the bottom 6 of the tanks 1 and 1a making an effective joint for keeping grit out of the stuffing box 5.

As an additional precaution the said stuffing box 5 is water packed by means of a perforated ring 9, clean water being connected by a suitable pipe 10 and escaping into the tanks.

The agitators 3 are driven by suitable gear, an intermediate spur wheel 11 on a vertical spindle 12 connecting the two gear wheels 13 on the agitator shafts 4, the bottom ends of the latter being carried in footsteps 14. One agitator shaft 4 in each set is fitted with bevel wheel 15 gearing with bevel pinion 16 on a tranverse shaft 17 carried in suitable bearings and passing through an opening in the retaining wall 2, power being transmitted from some convenient outside source to the pulley 18 or the like on the transverse shaft 17. The agitator drive is preferably arranged so that stopping the machine does not stop the agitators.

The level of the pulp and water in each of the tanks 1 and 1a is maintained by a suitable valve 19 (Figure 5) having a supply pipe 19a fitted thereto. This valve (wing) is operated by a lever 20, the end of which is pressed by a suitable tappet secured to the filter plate frames and is so arranged that the valve 21 is opened when the filter frames come almost to rest in the tanks 1 and 1a and is closed immediately the frames are raised. A wooden plug 22 in the lower part or chamber 23 of the valve 19 is connected with a float 24 by means of the hinged arm 25 the movement of the said arm being limited by the guide 26 having a vertical slot within which the said hinged arm 25 moves. The plug 22 may be adjusted by means of the screwed spindle

28 carrying locking nuts 29 and when properly adjusted will regulate the flow of pulp or water from the source of supply through the upper valve 21 and maintains same at its proper level in the tanks 1 and 1a.

The pulp or water is supplied to the valve 19 through the inlet orifice 30 and the valve rod 31 is fitted with a suitable weight 32 adapted to facilitate the closing of the valve 21. The valve rod 31 also carries the lever 20 which contacts with the filter frames as above described.

The filter frames 33 are preferably rectangular as illustrated in Figure 18 and are constructed with a suitable top bar 34 while the remainder of the frames is formed of suitable piping. These pipes 35 are bent at the corners 36 and at the upper end of each pipe 35 a collar 37 is firmly shrunk on. The end 38 of each pipe is screwed and passed through holes in the top bar 34. The two outside pipes or sides 35 of the filter frame 33 are screwed with nuts and washers 39 to the beam 34. The ends of the pipes 35 are hermetically sealed with wooden plugs 40. The pipes 35 are provided with the series of perforations 56 and communication is thus established between the interior of the filter frames and the pipes 35 and 35a. The pieces of cocoa-nut matting 41 are cut to fit loosely between the pipes 35 and of a thickness equal to the pipe diameter, and are securely laced thereto and to clips 42 in the top bar 34.

The filter cloth 43 is composed of any suitable material, such as American duck and is made up in the form of a bag cut to fit tightly over the pipes 35. Any suitable number of filter cloths may be used to obtain the desired thickness. It is secured and a joint made at the top by means of a bar 44 tightly bolted to the top bar 34. The filter cloth and matting are then securely stitched through as at 45 so that the cloth will not belly when compressed air is applied to blow off the cakes.

The filter frames 33 are suspended from a beam 46 of special construction and are provided with lugs 47 to which are attached hanger bars 47a (Figure 1) carrying two longitudinal angles to which the filter frames 33 are secured by bolts 48 which latter are also used to carry the above mentioned clips 42 by which the cocoa-nut matting is secured. It is essential that the frames 33 are made with all parts interchangeable so that a spare frame will fit wherever required, and any suitable number may be used.

The said beam 46 Fig.4 is cored out to form a pipe 49 so as to avoid the use of separate pipes as has hitherto been known and on its underside 50 it is provided with a sufficient number of holes 51 (Figures 3 and 4) to take solution and give air to the filter frames 33. Each hole 51 is tapped and fitted with a short length of piping 52 to which is securely wired a short length of rubber hose 53 which communicates with the inside of the filter plates 33 through the centre pipe 35a of the filter frame 33 which is fitted with the nipple 54 which

acts as a nut to hold the pipe 35a in place and is provided with a tapered male end 55 which makes an effective joint with rubber hose 53. The solution being drawn from the filter frames through the perforations 56 of the pipe 35 into the pipe 49 of the beam 46.

The beam 46 carrying the filter frame 33 is bored out at both ends to form a stuffing box. One end 57 (Figure 2) is then closed and the other is fixed with a swivel and stuffing box 58 for vacuum and compressed air connections.

The swivel and stuffing box 58 is provided with a swivel, the delivery orifice of which is fitted to the beam 46 and the inlet orifices are attached to the compressed air and vacuum supply respectively.

The beam 46 is carried by two built up rocking arms 63. These have suitable joints and members. The boss 64 of the rocking arms 63 is provided with a flange 65 at one end to bolt on to a worm wheel 66 and is formed with a collar 67 at the other end to engage with the main bearings 68. Suitable weights 69 are attached to the rocking arms 63 and are provided with slots to take the bolts. The rocking arm boss 64 is securely keyed to the main shaft 70 on which latter, at either side of the machine, is the worm wheel 66 for transmitting motion to the rocker arms 63 and to which is geared a suitable worm 71 on a longitudinal shaft 72 mounted in suitable bearings on the frame or retaining wall 2.

The worm wheels 66 are not keyed to the main shaft 70 but are secured by bolts and flanges 65 to the rocker arms 63.

The residues are discharged into a four part hopper 73 and thence into a circular tank 74 provided with a suitable agitator 75. A discharge or delivery pipe 74a is fitted to the residue tank 74.

The said discharge tank 74 and hopper 73 should be built to fit between concrete piers 79 and the tanks 1 and 1a. Wings 80 are carried up to catch the discharge from the end frames 33 and said wings are secured to piers 79 by suitable bolts.

In the driving gear the worm wheels 66 should have a suitable speed of revolution from pulp to wash and from wash to pulp. The worm shafts 72 are preferably carried out at end of machine and geared down three to one with bevel gear 81. These ~~below~~ bevel gears 81 are set "in and out" as illustrated in Figure 2 to give the same direction of rotation to the worms 71. A transverse shaft 82 mounted in bearings on the frame at the forward end of the machine is fitted with fast and loose pulleys, two pairs 83, 84 of different diameters are arranged to drive one with open and one with cross belt 85 and 86 respectively on two pulleys 87 and 88 on a countershaft 89 and thus give the necessary speed. The agitators 3 and 75 are preferably driven from a separate countershaft.

Automatic reversing gear and belt shifting devices are provided. The gear being actuated on the raising and lowering of suitable buckets moving with a series of trip and other levers and weights which cause a pair of shifting bars in their turn to transfer the driving belts from the fast to the loose pulleys and vice versa.

The automatic reversing gear is illustrated in Figures 6, 7, 8 and 9 of the drawings.

In the reversing gear the following devices are employed.

Buckets 90 are constructed as illustrated in Figures 8 and 9 being provided with a clack valve 91 for emptying them when in their lowest position. These buckets 90 are carried by arms A pivoted at B to the brackets C on the wash tank 1 (Figure 2).

Overbalance tube 92 (Figure 7) is provided with a ball 93 and is fastened by U bolts to bearing blocks 95 on a rock shaft 96 (Fig. 2) mounted on the frame of the machine.

Belt shifting bars 97, 98 (Figure 7) are mounted in brackets or guides on suitable vertical standards 100 and said bars are provided with pins carrying ferrules or rollers 101 and 102. Belt forks 104 are provided on bars 97 and 98 consisting of pins carrying tubes or rollers.

The quadrant 110 is pivotted on the vertical spindle 111 between the brackets 112 on the tank 1 and is connected to the pull rod 113.

Figure 6 illustrates clearly the construction of the operating levers 114. These latter are provided with a plate 115 having a curved inner edge 116 which engages with the pin or roller 117 on the head 118 of the rocking arm 63. The normal position of said levers being shown by dotted line in Figure 6. The plates 115 are adjustable on the levers 114 which are provided with spaced holes to allow of the adjustment.

The levers 114 are positioned on the outside of the tanks 1 and 1a as illustrated in Figures 1 and 6.

The trip lever 114 positioned outside the pulp tank 1a is fulcrummed at 120 to a vertical standard 121 and at its lower end a suitable weight 122 is attached, an arm 123 extends from the fulcrum or pivot 120 and by means of the rod 124 is connected to the bell crank 125 to which is also attached the pull rod 113, the bell crank being pivotted to the bracket 126.

The trip lever 114 positioned outside the wash tank 1 and on the opposite side of the machine is fulcrummed at 127 to the vertical standard 128 and the arm 129 on the pivot 127 by means of a short rod 130 is connected to the bell crank 131 pivotted to a bracket on standard 128. In the drawings the machine is shewn running from wash to pulp.

As the filter plates 33 settle down in pulp tank 1a the pin 117 on the head 118 of rocking arm 63 engages the curved edge of the plate 115 and operates levers 123, 124 and 125 which by means of the pull rod 113, the quadrant 110, to pass the right angled corner, a continuous rod 113a, and a bell crank lever 133 (Figure 7) with connecting rod 134, pulls the bucket 90b into its raised position as indicated in dotted lines. This action turns the overbalance tube 92 into its opposite angle throwing off the belt and setting gear ready to operate again. The bucket 90b controlling the belt shifting bar 98 is adapted to shift the belt 85 (Figure 3) on to the fast pulley 83a (Figure 2). Water runs into the ———————

buckets from a stand pipe (not shown) the flow being regulated by a suitable cock or valve from time to time as required. The water flows out of the buckets 90a and 90b (Figures 8 and 9) when they are in their lowest position through the clack valve 91 which are opened when the buckets fall.

As a further instance, water is flowing into the bucket 90a and when it is full it falls by its own weight and acts on a lever 135 through a rod 136 and turns the rock shaft 96 and with it its overbalance tube 92 carrying the ball weight 93, which when the tube 92 passes the horizontal rolls to the low end and causes the rock shaft 96 to turn the lever 137 and bell crank 138 which moves through the same angle as the lever 137, and in the same direction. While ~~When~~ the bucket 90a is falling the free end of the bell crank 138 moves freely and contacts with the pin 102 on the higher slide bar 97, the weight of the ball 93 in the overbalance tube 92 is now applied and causes the slide bar 97 carrying its belt forks 104 to move to the right throwing the belt onto the fast pulley 84a (Figure 2). The machine is now set in motion and filter plates 33 transferred from pulp to wash. As the plates settle down in tank 1 the head 118 of main rocker arm 63 acting on the said curved plate 115 reverses the action and the overbalance tube is turned over the horizontal and the ball 93 rolls to the left hand end, the bell crank 138 engages the pin 101 which moves upper slide rod 97 to the left and throws belt on to loose pulley 84b. The gear is again in position shewn ready to act when the bucket 90a is full.

The gear controlled by the bucket 90b is free to act when said bucket is sufficiently full and transfer plates from wash to pulp, thus the length of time desired to leave the filter frames in the pulp or wash is regulated by the rate of flow of the water into the buckets. If bucket 90a is filled in ten minutes and bucket 90b in twenty minutes, the frames will be in the pulp ten minutes and in the wash twenty minutes. The cock on the water stand pipe supplying bucket 90a is opened by suitable connections (not shown) operated by the bucket 90b in rising and closed by the bucket 90a in descending and vice versa.

The vacuum and air connections and the controlling devices therefore are more especially illustrated in Figures 10 to 14. The filter plates 33, except when the cakes are being blown off after washing, are connected to a vacuum pump (not shown) the solution passes from the plates through the beam 46 and swivel joint 58, down a pipe 139 secured to the rocking arm 63 through an automatic vacuum valve 140 to a second swivel 141 similar in construction to the swivel 58, which makes contact with a fixed pipe 142, and thence to the vacuum pump through a pipe or pipes arranged to suit the position of the machine. The axis of the swivel 141 is in line with that of the main rocker shaft 70.

The automatic vacuum valve 140 (Figure 11) is a wing valve and is provided with inlet and outlet orifices 140a and 140b. Above the valve seat are two inspection windows 145. Below the valve seat is a set

of lever gear consisting of a pivoted arm 146 and the free end and enlarged head of which enters a slot in the screwed rod of the valve. On the outside of the valve is a double faced cam lever 150, the spindle 151 of which carries the rocking arm 152 which engages with and controls the upward or opening movement of the lever 146 and this lever controls the opening of the vacuum valve. The cam lever is slotted at 153 and a pin 154 on a suitable bracket and carrying a spring or locking washer 154b passes therethrough and limits the movements of the lever 150 which is provided with two cam faces or tracks 155 and 156.

The double faced cam lever 150 is adapted to control the opening and closing of the vacuum valve 140 and closes and re-opens the valve at prearranged points so that vacuum is shut off when the compressed air is admitted to blow off the cakes. Two special trippers 157, 158 are arranged on the framing 159 and are adjustable within certain limits. These engage with the cam lever 150 when the plates 33 are travelling from wash to pulp and shut off the vacuum for a space and then re-open it, the closing tripper 157 being positioned as illustrated in Figure 10 and engaging with the track 155 of the cam lever, while the opening tripper 158 engages with the track 156 of the lever 150 and re-opens the valve. When the plates 33 are travelling in the opposite direction these trippers 157, 158 swing clear and do not act, the trippers being pivoted and provided with stop pins to allow of the operation of the cam lever 150.

Compressed air is used to break the vacuum and blow off the cakes as the filter plates 33 pass from wash to pulp. The compressed air is brought from any convenient supply main to a point 160 near the end of the main rocking shaft 70 by means of a flexible hose connection 161 made to an air pipe 162 leading along the rocking arm 63 to a flanged arm at the rear of the swivel 58 at the end of the beam 46. At this point a compressed air valve 164 is fitted and is provided with a cam lever 165 (Figs.12 and 13) which engages on a roller 166 fixed to the framing 167 (Fig.10) in such a way that compressed air is admitted to the filter frames and blows off the cakes which are held only by suction. When the cam lever 165 passes clear of the roller 166 the air is shut off and the vacuum valve is re-opened.

The roller 166 is so arranged that when the plates 33 pass from pulp to wash it does not act. The air valve 164 (Figs.12 and 13) is provided with an inlet orifice 168 and an outlet orifice 169 which latter allows the air to pass into the pipe 49 of the beam 46 (Fig.2) when (as in Fig.13) the roller 166 actuates the cam lever 165 pivotted at 170 to the bracket 171 and operates within the bifurcated arms 172. The roller 166 contacts with the enlarged end 173 forming a track and when lever 165 is operated it pushes the valve rod 174 down which opens the valve 175 which is forced from its seat 176 and allows compressed air to pass to the filter plates 33. Immediately the cam lever 165 passes clear of the roller 166 the valve 175 is closed by the air pressure.

The roller 166 (Fig.14) is rotatably mounted on the bifurcated arm 177 pivotally mounted on the depending arms 178 of the screwed rod 179 having nuts 180 with which it is securely fastened to the frame 181. The roller is so arranged that when plates pass from pulp to wash it does not act. A stop 182 being attached to the bifurcated arm 177 for this purpose.

The method of operation is as follows:-

One of the tanks 1a is fitted with the pulp to be treated and the other with water or wash solution. The agitators 3 and 75 are set in motion and the vacuum admitted to the filter frames 33. The filter frames 33 are lowered into the pulp tank 1a and the water adjustment regulated to permit of a long enough immersion to form the required thickness of cakes on the filter frames 33. The water receptacle or bucket 90a when full sinks by the action of gravitation and moves the belt 86 on to the fast pulley 84a bringing the worm gear into action and carrying the filter frames 33 over by a semicircular sweep and lowering them into the wash tank 1. The other water receptacle or bucket 90b having been raised by the motion of the filter frame is brought into its raised position to receive its supply of water, the valve being also regulated to permit of the required period of immersion.

When the second water receptacle or bucket 90b is full, it descends and removes the other belt 85 on to the fast pulley 83a and the filter frames 33 are carried back towards the pulp tank.

At a point (Figure 10) between the two tanks,

vacuum and compressed air valves 140 and 164 contact with their respective operating devices and the vacuum valve 140 is shut for a short space of time and the air valve 164 similarly opened by means of which air pressure is admitted to the filter frames 33 and the residue cake is expelled from them, the filter frames passing on to receive another supply of pulp and the whole action is automatically repeated.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:-

1. An improved slimes filter in which all the actions of the filtering frames, their timing and reversal, and the admission of compressed air or vacuum may be ~~are~~ automatic, by means of gear for transmitting power from a counter shaft to rocking and reciprocating arms, automatic reversing gear and belt shifting devices and suitable pipe connections communicating with a vacuum valve and a compressed air valve, substantially as described.

2. In a slimes filter as claimed in Claim 1, rotating agitators fixed in the three tanks two of which are adapted to receive a plurality of filter frames fixed to rocking arms, the frames being diverted from one tank to the other tank, the central tank being a receptacle of the residue, automatically diverted from the frames to the said tank, substantially as described.

3. In a slimes filter as claimed in Claim 1 a double or compound valve for automatically regulating the level of the pulp and water in the two outside tanks, the supply to the said valve being made from any source, and the upper valve being connected to a lever operated by the filter frames and the lower valve operated by a float raised by the pulp or water of the said tank, to close the same, substantially as described.

4. In a slimes filter as claimed in Claim 1, the formation of such a valve to automatically regulate the level of the pulp and water in the two outside tanks substantially as shown in Figure 5.

5. In a slimes filter as claimed in Claim 1 the automatic reversing gear and belt shifting devices whereby said filter frames are immersed and transferred from tank to tank continually, and two buckets which control the reversing gear according to the time in which one or the other bucket is filled by water, substantially as described.

6. In a slimes filter as claimed in Claim 1, the formation of the reversing gear and the construction of the buckets, substantially as shewn in Figures 7, 8 and 9.

7. In the slimes filter, claimed in Claim 1, a crossed tubular shaft being part of the swinging frame and suspending the said filter, the said shaft having orifices towards the interior of the filters, one end of said cross-beam being closed and the other end communicating with solution, vacuum and compressed air

connections, brought back to the centre of motion substantially as described.

8. In a slimes filter as claimed in Claim 1, the formation of the connections between the cross - beam holding the filtering frames, and the filtering frames, as shown in Figures 3 and 4.

9. In a slimes filter as claimed in Claim 1, the construction and parts of the automatic vacuum valve as shewn in Figure 11.

10. In a slimes filter as claimed in claim 1, the construction of a compressed air valve, with a roller to automatically open the said valve, to communicate air pressure to the interior of said filter frames for a short period, substantially as shewn in Figs.12, 13 and 14.

11. In a slimes filter as claimed in Claim 1, automatic reversing gear and belt shifting devices actuated by the lowering of two buckets connected with a series of bell cranks and other levers, over - balance tubes with weighted balls therein, pivotted levers at one side of either of the two outside tanks, the said levers carrying at their extremities curved plates adapted to contract with a pin roller upon the enlarged head of the main rocking arms, from which they obtain their motion, thus, by means of side connections from the said levers communicating a motion to the reversing gear, substantially as described.

12.....The combination and arrangement of the various parts comprising my improved automatic acting

slimes filter, constructed, arranged, and operating substantially as set forth, and as illustrated in the drawings hereto annexed.

4. The applicant, therefore, applies for leave to file a Specification of the invention pursuant to The Mysore Inventions and Designs Regulation, 1894.

Dated this 24 day of September 1913.

Alfred James

I, ALFRED JAMES, the applicant above named do declare that what is stated in this Application is true to my knowledge, except as to matters stated on information and belief, and as to those matters I believe them to be true.

Alfred James

Counterfoil may write here any communication to the payee.

Rs. 11/- As. —

Rs. 11/- remitted Rs. advised in our registered letter of this date. 11/11/13

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G.R.S. 29A]

190 .

From

Secy. to the Govt. of His Highness the Maharaja of Mysore, Genl. and Rev. Dept.

To

The Deputy Commissioner,
Treasury Deptt, Bangalore

Dated
Despatched 11/12/13
Received

General No. G 4327
Spl. No. 713-13-2
Enclosure No. Rs 10/-

Has the honor to forward herewith a sum of Rs 10/- (ten only) received from Messrs H. V. Williams & Co, Calcutta, being the application fees payable under Schedule IV clause (1) of the Mysore Inventions and Designs Regn. No. XI of 1894 for leave to file a specification of an invention for "An improved filter for Slimes Pulp and the like" by Mr. Alfred James of 2 Broad Street Place, London, England, Mining Engineer, and to request the favor of an acknowledgment for the receipt of the amount.

By order,

5/12/13.
for Secretary

MGCPB--20,000--16-2 05 BR

Cb 14/12/13

To Bo D 13/12

3240

G.R.S. 29A]

190

From

Secy. to the Govt. of His Highness the Maharaja of Mysore, Genl. and Rev. Dept.

To

The Superintendent of Stamps, Bangalore.

Dated
Despatched } 11/12/13
Received

General No. C 4328
Genl. No. 213-13-3
Enclosure No. 1 & 1 Receipt

Has the honor to forward herewith Power-of-Attorney executed by Mr. Alfred James constituting Messrs H. V. Williams & Co, Calcutta, as his agents in respect of his invention for "An improved Filter for Slimes Pulp and the like", and to request that the same may be impressed with the Mysore ~~Genl~~ General Stamp of the value of Re 1 and also herewith forwarded and the power returned to this office.

By order,

5/12/13.

for Secretary.

BR

MGCPB—20,000—16-2-05

From

Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To
The State Geologist
in Mysore.

Dated
Despatched 11/12/13
Received
General No. G 4329
Rev No. 213-13-4
ENCLOSURE NO. one

Has the honor to forward herewith for report under Sec 6(2) of the Mysore Inventions and Designs Regn No XI of 1894 an application for leave to file a specification of an invention for "An improved filter for slimes Pulp and the like" by Mr Alfred James of 2 Broad Street Place, London, England, Mining Engineer.

By order,

5/12/13
for Secretary
BR

Q6 10/12/13

GPB--10,000—9-4-06.

Stamp 19]

GPB—200—2 9-13

OFFICE OF THE SUPERINTENDENT OF STAMPS IN MYSORE.

BANGALORE, DATED 15 Dec 1913 DIARY No. 4902

No. 113
Enc. 2

19/3-1914
SECTION Gen: Mis
FILE No. 213 of 913-14
SERIAL No. 5

From

N. Krishnaswami Rao, Esq., B.A.,

Superintendent of Stamps

in Mysore.

To

K. R. Sreenivasiengar, Esq., M.A.,
Secretary to the Govt. of Mysore,
Genl. and Rev. Depts.

Sir,

I have the honor to return here
with duly stamped, the two Powers of
attorney, received with your docket No
G. 4328 and G. 4331 dated 11 Instant
Gen. 213.13-3 Gen. 214.13-3
and to request the favor of an acknowledg

I have the honor to be
Sir
Your most obd. Servant

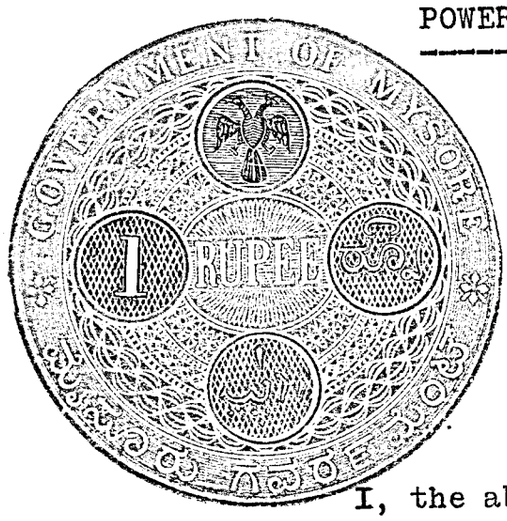
N. Krishnaswami Rao

Superintendent of Stamps
in Mysore.

D/Jn

Actg.

POWER OF ATTORNEY.



IN THE MATTER of the Inventions and Designs Regulation XI of 1894, of the Government of Mysore:

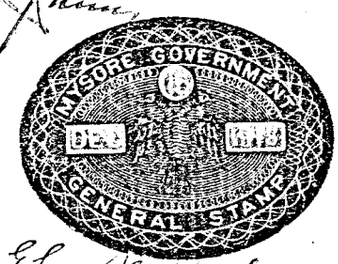
and

IN THE MATTER of ALFRED JAMES, of 2 Broad Street Place, in the City of London, England, Mining Engineer, Assignee of George Ridgway, of the Great Bolder Gold Mine, Kalgoorlie, Western Australia, an Inventor.

I, the above named Alfred James, do hereby retain, constitute and appoint the firm of H. V. Williams & Co., of 8, Esplanade East, Calcutta, British India, Patent Agents and Engineers, as my Agents and Attorneys to apply for and obtain from the Government of Mysore an Exclusive Privilege for "An Improved Filter for Slimes Pulp and the like", and to maintain the same in force, and I authorize them or the partner or partners for the time being or any of them to sign my name to such papers and writings and do such acts regarding the same, including substitution and revocation, as may be necessary and expedient. And lastly, I request that all notices, requisitions and communications now or hereafter may be sent to such Agents at the above address, and that they be recognized as my authorized Agents in all proceedings incident thereto.

Dated this 29th day of September 1913.

Alfred James



Signed, sealed and delivered
by the above named Alfred James
at London, England
in the presence of

Stanley Hawking, 1, Broad Street Place, London E.C. Secretary.

John A. Calderwood, 1, Broad Street Place, London, E.C. Clerk.

Jan: mis file no 213 of 1913

Sl 6

CIARY NO....4023

Rs 10-0-0

Book No. 1042/175

Bangalore District Treasury dated 3 The December 1913.

Nos 91

Received from The Secretary to Government Genl & Rev: Depts

Rupees Ten only

Annas _____ and Pies _____ being on account of

Application fees payable under Schedule IV Clause I of the Mysore Inventions & Designs Regn No XI of 1894 for an Improved Filter for Slimes Pulp & the like by Mr A. Jones & received with his docket No: G. 4327/213-13-29 11-12-13.

In charge of Treasury.
Bangalore District

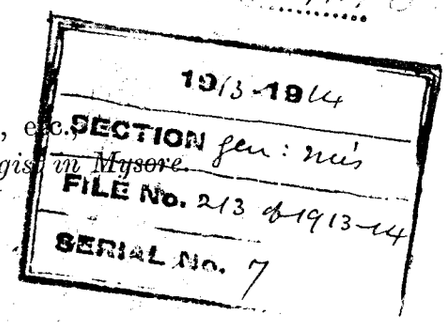
M.G.D. 13]

MYSORE GEOLOGICAL DEPARTMENT,

DATED BANGALORE, 20 December 1913.

No. 1467. Specification.

Dis. No. 4148



FROM

DR. W. F. SMEETH, M.A., D.Sc., A.R.S.M., etc.,
State Geologist in Mysore.

To

K.R. Srinivasa Iyengar, Esquire, M.A.,
Secretary to the Government Of His Highness
the Maharaja of Mysore, General & Revenue Depts:

SIR,

In reply to your letter No. G 4329-G.M.213-13-4, dated the 11th December 1913, forwarding for report Mr. Alfred James's application for leave to file a specification of his ~~insertion~~ invention for "An Improved Filter for slimes Pulp and the like", I have the honour to inform you that so far as I am aware the plant is novel in design and operation and the claims are reasonable and sufficiently limited ~~to~~ in scope. In my opinion the leave applied for may be granted.

2. The application and specification are herewith returned.

I have the honour to be,
Sir,
Your most obedient servant,

W. F. Smeeth

State Geologist in Mysore.

W.

GPB-300-28-3-13

No. G.S.429
G.U. 213-13-8

GOVERNMENT OF MYSORE

General Department.

Register No. 3 of 1903-14.

Bangalore, the 17th January 1904.

WHEREAS an application, dated the 29th September 1913 and received on the 14th November 1913, has been submitted under Section 5 of the Mysore Inventions and Designs Regulation, 1894, by Mr Alfred James, of 2, Broad Street Place, in the City of London, England, Mining Engineer, Assignee of George Ridway of the Great Bolder Gold Mine, Kalgoorlie, Western Australia, (hereinafter referred to as "the applicant") for leave to file a specification of an invention for "An improved filter for Slimes Pulp and the like"

And whereas the applicant has duly complied with all the requirements of Section 5 of the said Regulation;

The Government of Mysore are pleased, under Section 6 of the said Regulation, to authorize the applicant to file a specification of the said invention in accordance with the provisions of the said Regulation.

ORDERED, that the applicant be, and he is hereby, informed accordingly.

By Order of the Government of Mysore,

for Secretary to the Govt. of Mysore,
Gen. and Rev. Depts.

Certified that the fees prescribed in the fourth schedule to the Mysore Inventions and Designs Regulation, 1894, in respect of the application for leave to file the said specification and of the filing thereof have been paid by the applicant, and that the specification hereinbefore described has been duly filed in accordance with the provisions of Section 8 of the said Regulation on this the twenty-six day of January 1904.

for Secretary to the Govt. of Mysore,
Gen. and Rev. Depts.

(Section 8 of the Inventions and Designs Regulation, 1894.)

8. (1) If within six months from the date of an order under Section 6, Sub-Section (1), or within such further time, not exceeding three months, as the Government of Mysore, in its discretion, may, on cause shown to its satisfaction and on payment of the fee prescribed in that behalf in the fourth schedule, see fit to allow, the applicant causes a specification of his invention to be filed in manner by this Part required, and the fee prescribed in the fourth schedule in respect of the filing of the specification to be paid, the applicant shall, subject to the other provisions of this Part, be entitled to the exclusive privilege of making, selling and using the invention in the Territories of Mysore, and of authorizing others so to do, for a term of fourteen years from the date of the filing of the specification.

(2) But an exclusive privilege in respect of an invention of a new manufacture shall, notwithstanding anything in Sub-Section (1), cease, if the inventor fails to pay, within the time limited in that behalf by the fourth schedule, any fee prescribed in that schedule in respect of the continuance of the privilege.

(3) If, nevertheless, in any case, by accident, mistake, or inadvertence, an inventor fails to pay any such fee within the time so limited, he may apply to the Government of Mysore for an enlargement of the time for making the payment.

(4) Thereupon the Government of Mysore may enlarge the time accordingly, on payment of the fee prescribed in that behalf in the fourth schedule, and subject to the following conditions, namely :—

(*a*) the time for making a payment shall not in any case be enlarged for more than three months ; and

(*b*) if any suit is instituted in respect of an infringement of the exclusive privilege committed after a failure to make a payment within the time limited for the making thereof and before the enlargement of that time, the Court disposing of the suit may, if it thinks fit, refuse to award or give any damages in respect of the infringement.

GPB—500—7-4-09.

G. R. S. 26]

Serial No. 9

Diary No. of letter replied to 4148

No. G 5230

General and Revenue Secretariat

( )

, *the* 191 .

To

Messrs H. V. Williams & Co.,

Patent Agents & Engineers,

8, Esplanade East, Calcutta.

Date of issue 17.1.14

Signed by [illegible]

Gentlemen,

With reference to your letter No. 2563-C, dated the 11th Nov. 1913, I am directed to forward herewith G. O. No. G 5429 dated the 17th January 1913, authorizing Mr. Alfred James of 2 Broad Street Place, London, England, Mining Engineer, to file a specification of his invention entitled "An improv

Gen. 213-13-8

over.

SUBJECT.

filter for Slimes Pulp and the like, and to request that the fact may be communicated to the party concerned.

I have &c,

For Secretary.

List of enclosures,

Copied by 3/1

Examined by

GPB—25,000—8-8-11.

19 .

From

Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To

The Superintendent of
Stamps in Mysore,
Bangalore.

Dated

Despatched 17.1.14

Received

General No. G 5631

Genl. No. 115-13-10

Enclosure No. ——

Has the honor to acknowledge the receipt of the duly stamped power-of-attorney forwarded with his letter No. 113 dated the 15th December 1913.

By order,

For Secretary

G P B—20,000—24-10-10.

DIARY No.....

1913-1914
SECTION Jen : Mis
FILE No. 213 of 1913-14
ITEM No. 11

No.2563-C.

V
26/1

From

H. V. Williams & Co.,
Patent Agents & Engineers,
8, Esplanade East, Calcutta.

To

The Secretary to the Government of
H. H. the Maharajah of Mysore,
General & Revenue Departments,
B a n g a l o r e.

Dated, the ~~21st~~ 22nd January 1914.

Sir,

We have the honour to acknowledge receipt of your letter No.G.5430/G.M.213-13-9 dated the 17th instant forwarding Government Order No.G.5429/G.M.213-13-8 of same date authorizing Mr. Alfred James, of 2 Broad Street Place, in the City of London, England, Mining Engineer, to file a specification of his invention for "An improved filter for slimes pulp and the like".

2. The above mentioned Government Order is returned herewith together with the said specification and three copies thereof, and we request that the Certificate at foot of the Order may be completed accordingly and the document returned to us in due course.

3. By postal Money Order we remit the sum of Rs.30/- in payment of the prescribed fee on the filing of the specification.

We have the honour to be,

Sir,

Your obedient Servants,

H. V. Williams & Co.

Registered
Enclosures

may write here any communication to the payee.

Rs. 52 ~ As. —

26-1-14

Rs. 30/- remitted as per our registered Remitter
letter of this date. H. V. Williams & Co
22-1-14

J. S. B. & V.

26/1/14

Remitted to [illegible]

21/2/14

MYSORE GOVT, GEN. & REV. SECRETARIAT,

No. G 11/666 / Dated Bangalore, 20th Feb 1904.

Pur 213-13-(4491)

SC (11A)

NOTIFICATION.

(PATENT.)

The following specification of an invention has been filed in accordance with Sections 8, 9, 10 and 11 of Regulation XI of 1894 (The Inventions and Designs Regulations) and is open to inspection at the Mysore Government Secretariat on application to the Secretary to the Government of His Highness the Maharaja of Mysore, General and Revenue Departments, and on payment of a fee of one Rupee.

By Mr. Alfred James, of 2 Broad Street Place, in the City of London, England, Mining Engineer.

"An improved filter for slimes pulp and the like".

By Order,

For Secretary.

To

The Compiler, *Mysore Gazette*, for publication.

MYSORE GOVT. GEN. & REV. SECRETARIAT,

No. G 6662 e/1
Ger. 213-13-12

Dated Bangalore, 20/2/ 1914

From

The Secretary to the Government of H. H. the Maharaja of Mysore,
General and Revenue Departments.

To

Messrs H. V. Williams & Co.
Patent Agents and Engineers,
8, Esplanade East, Calcutta.

~~Sir,~~ Gentlemen,

With reference to your letter dated the 22nd Jan.y 1914, I am directed to forward copy of a Notification No.G Ger. 213-13- dated Feb.y 1914 issued by this Government in regard to the invention filed by you under Regulation XI of 1894 (The Inventions and Designs Regulations.) and request that the fact may be communicated to the party concerned.

The order granting permission to file specification is herewith returned, with the certificate at foot, duly filled in and signed.

I have the honor to be,
~~Sir,~~ Gentlemen,
Your most obedient servant,

Dft)

for Secretary.

G.R.S. 29A]

19 .

From

Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To
The Deputy Commissioner,
Treasury Dept, Bangalore

Dated

Despatched 29/2/14

Received

General No. G 6663
Con No. 43-13-31

Enclosure No. 30/-

Has the hona to forward herewith a sum of Rs 30/- (Thirty only) received from Messrs H.V. Williams & C°, Calcutta, being the fee payable under cl (2), Schedule IV of the Mysore Inventions ~~Designs~~ Regulation No XI of 1894, for filing a specification of an invention for "An improved filter for slimes pulp and the like" by Mr Alfred James of 2, Broad Street Place, London, England, Mining Engineer, and to request the favor of an acknowledgment for the receipt of the amount.

By Order,

Fr Secretary

GPB--20,000--24-10-10.

G.R.S. 29A]

19 .

From

Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To
(1) The State Geologist in Mysore.
(2) " Supdtt, Govt Museum.
(3) " Chief Engineer of Mysore.

Dated
Despatched } 20/2/14
Received

General No. G 6664-6
Cir. No. 213-13-14
Enclosure No. one

Has the honor to forward herewith for record in his office, copy of a specification of an invention for "~~Improvements~~ An improved filter for slimes pulp and the like" by Mr. Alfred James of 2 Broad Street Place, London, Mining Engineer, and to request the favor of an acknowledgment.

By Order,

For Secretary.

GPB—20,000—24-10-16.

DIARY NO. 6036

Rs 30-0-0 Book No. 1043

No. 1913-1914
69
FILE NO. 213 of 1913-14

Bangalore District Treasury dated 21st February 1914

Received from The Secretary, Govt. of Mysore, Bangalore

Rupees Thirty only

Annas _____ and Pies _____ being on account of

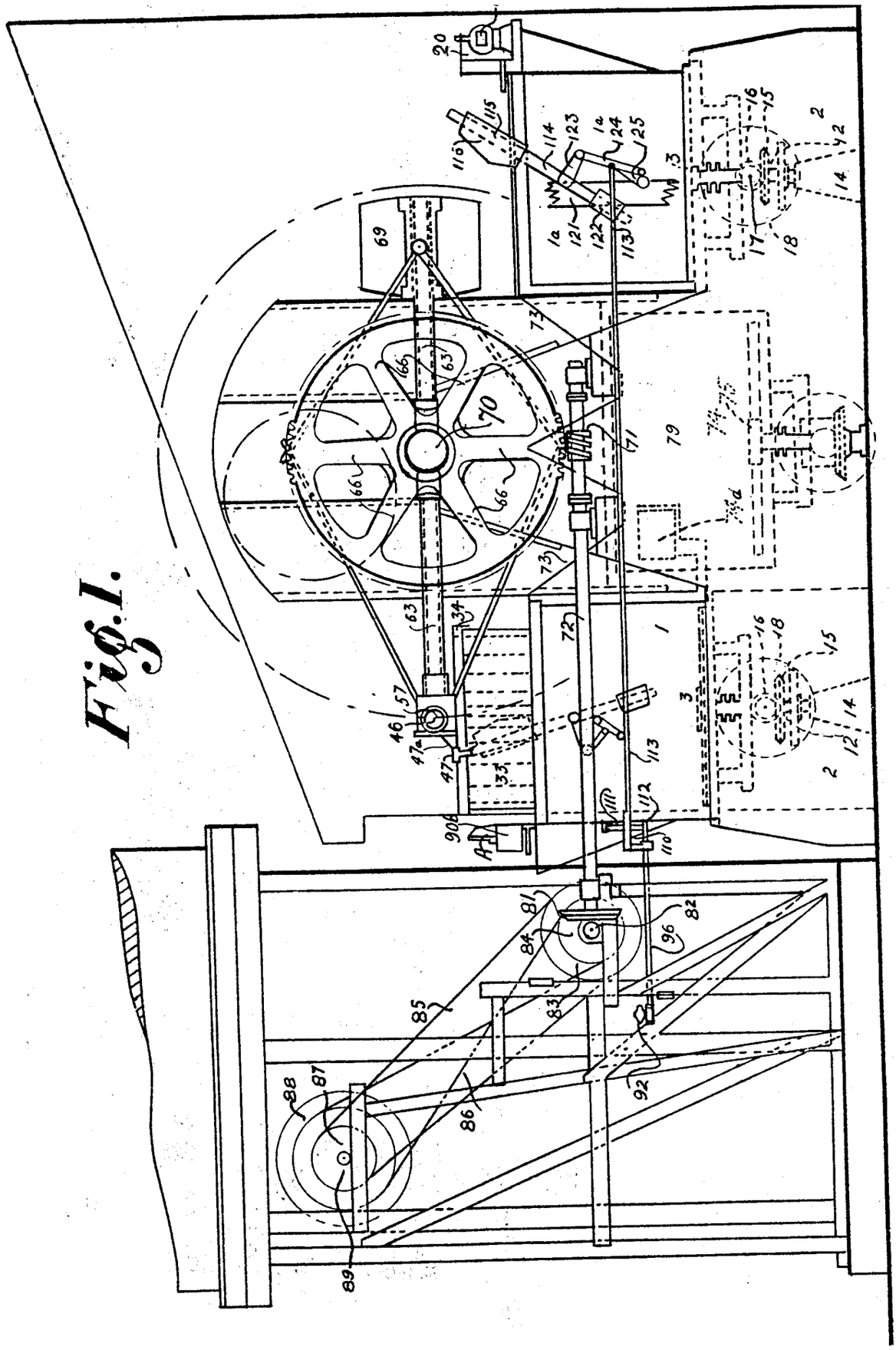
fee received from Messrs W. Williams & Co, Calcutta
for filing a specification of an invention for an Improved
filter for Stone pulp - received with his docket no: G.6663/213-13-13
dy 20-2-14.

H. Narasaraju
In charge of Treasury.

Bangalore

Noted and returned to
Bo. T
25/2

Fig. 1.



Alfred James
By his Attorneys
H. V. Williams & Co.

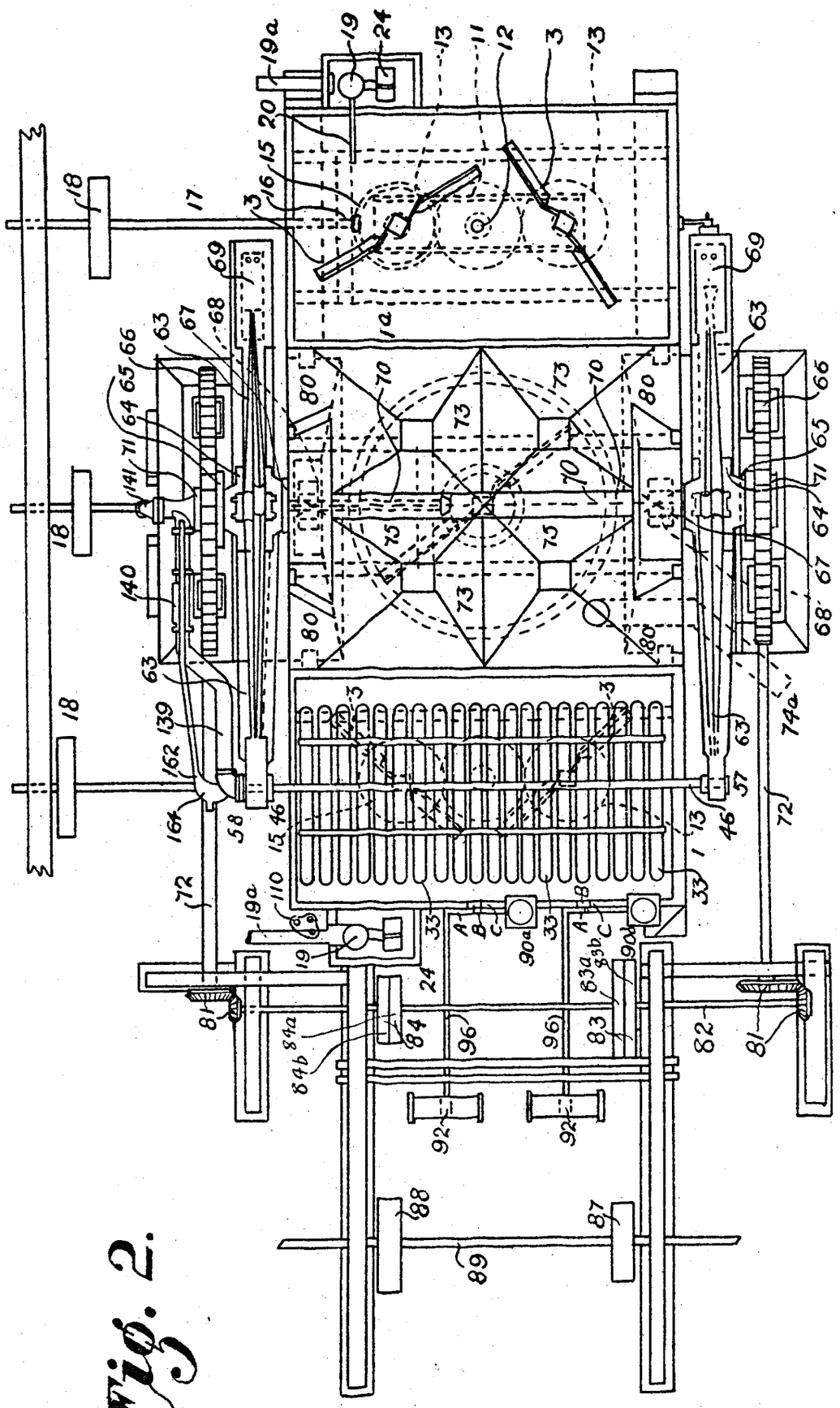


Fig. 2.

Alfred James
By his Attorneys
H. W. Williams & Co.

Fig. 3.

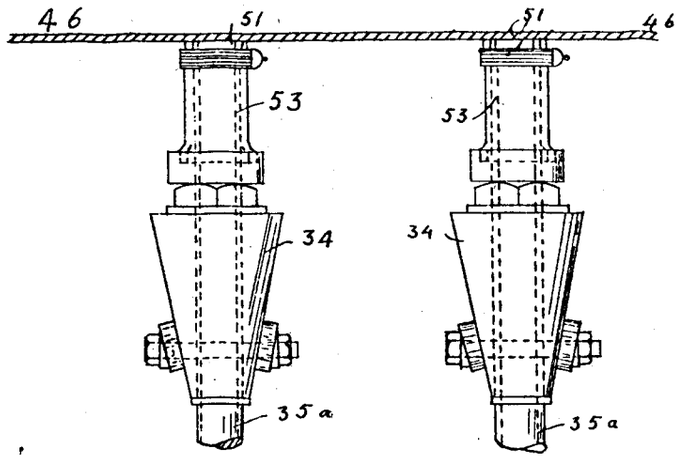


Fig. 5.

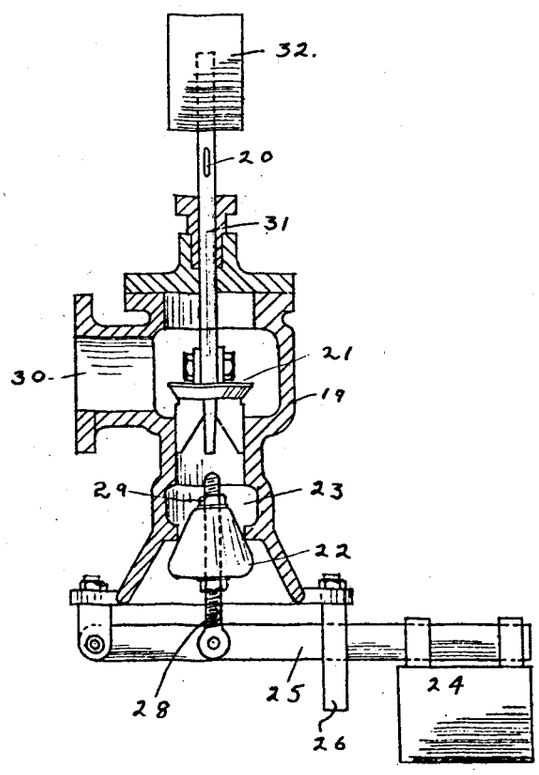
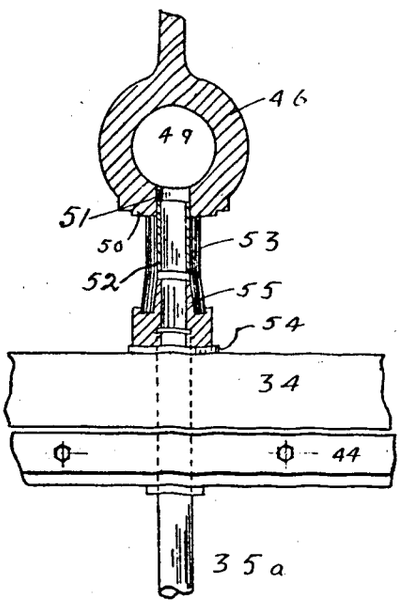
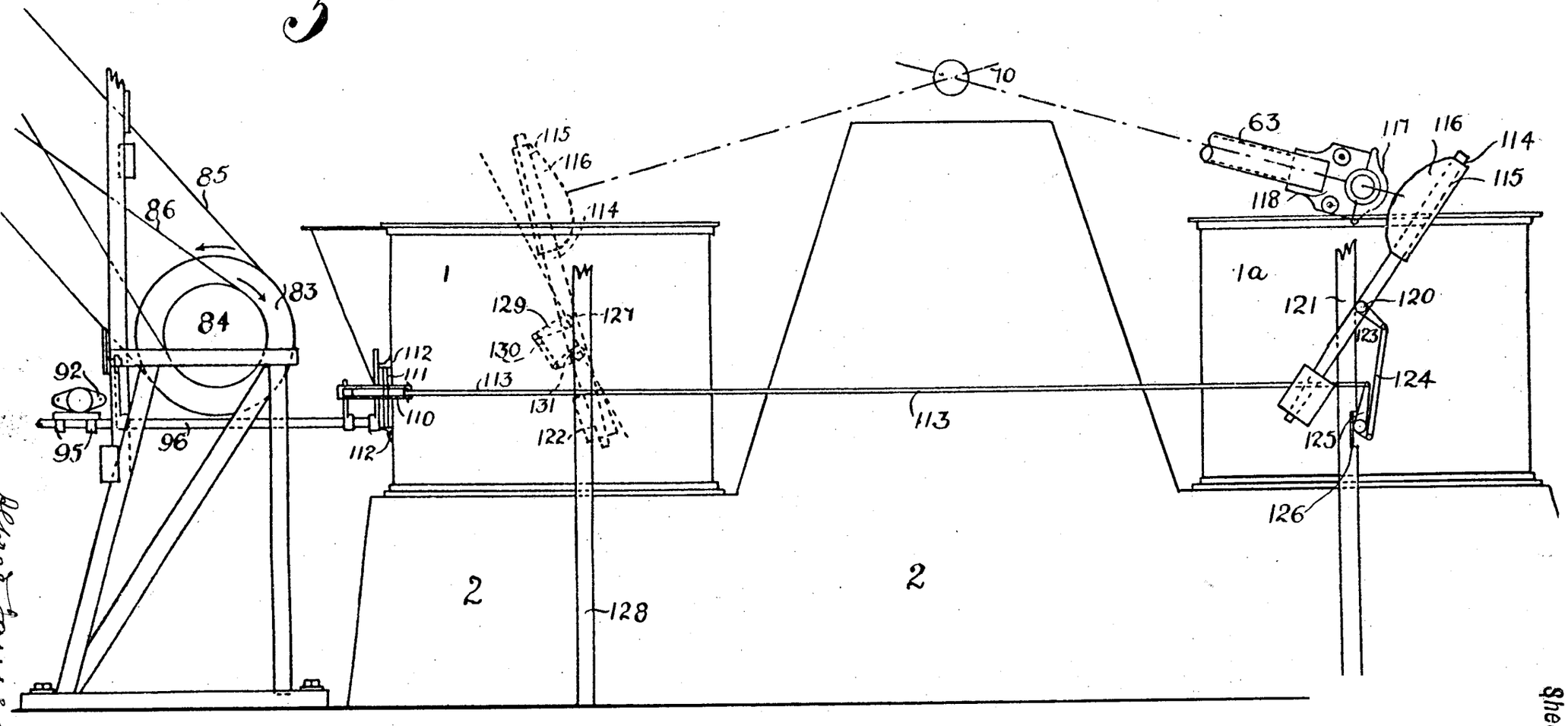


Fig. 4.



Alfred James
By his Attorneys
H. V. Williams & Co

Fig. 6.



Alfred Bowers
By his Attorneys
H.D. Williamson & Co.

(8 Sheets
Sheet 4

Fig. 7.

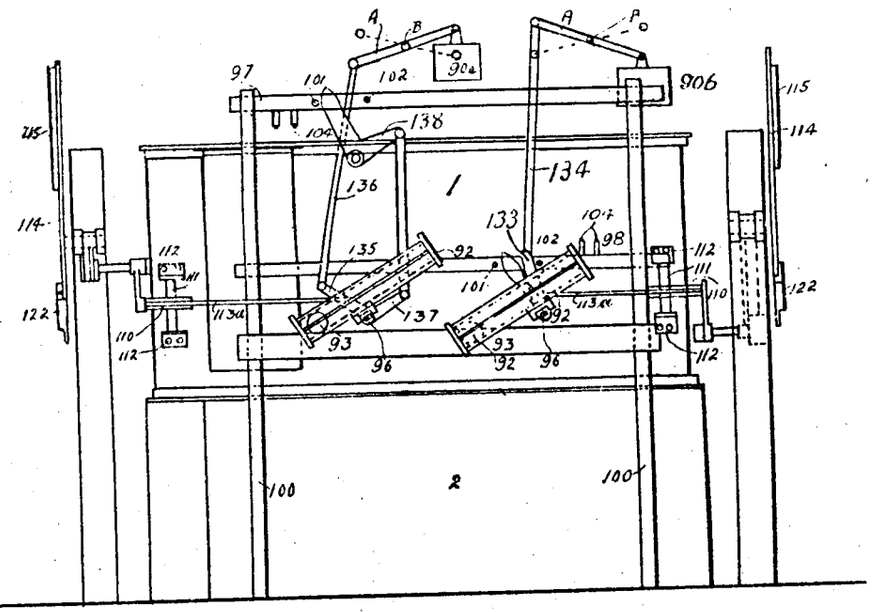


Fig. 8.

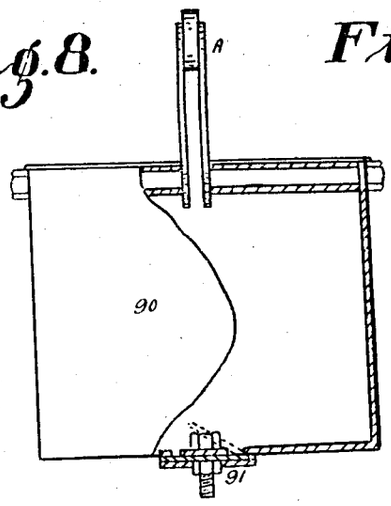
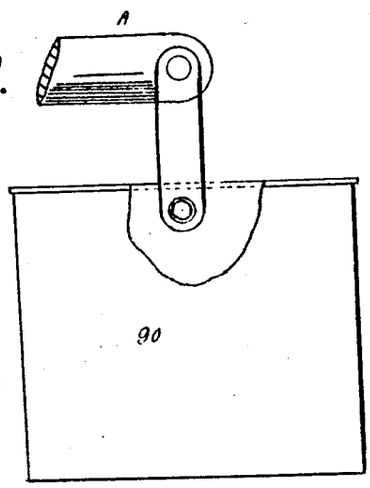


Fig. 9.



Alfred James
By his Attorneys
H.W. Williams & Co.

(8 Sheets)
Sheet 6

Fig 10.

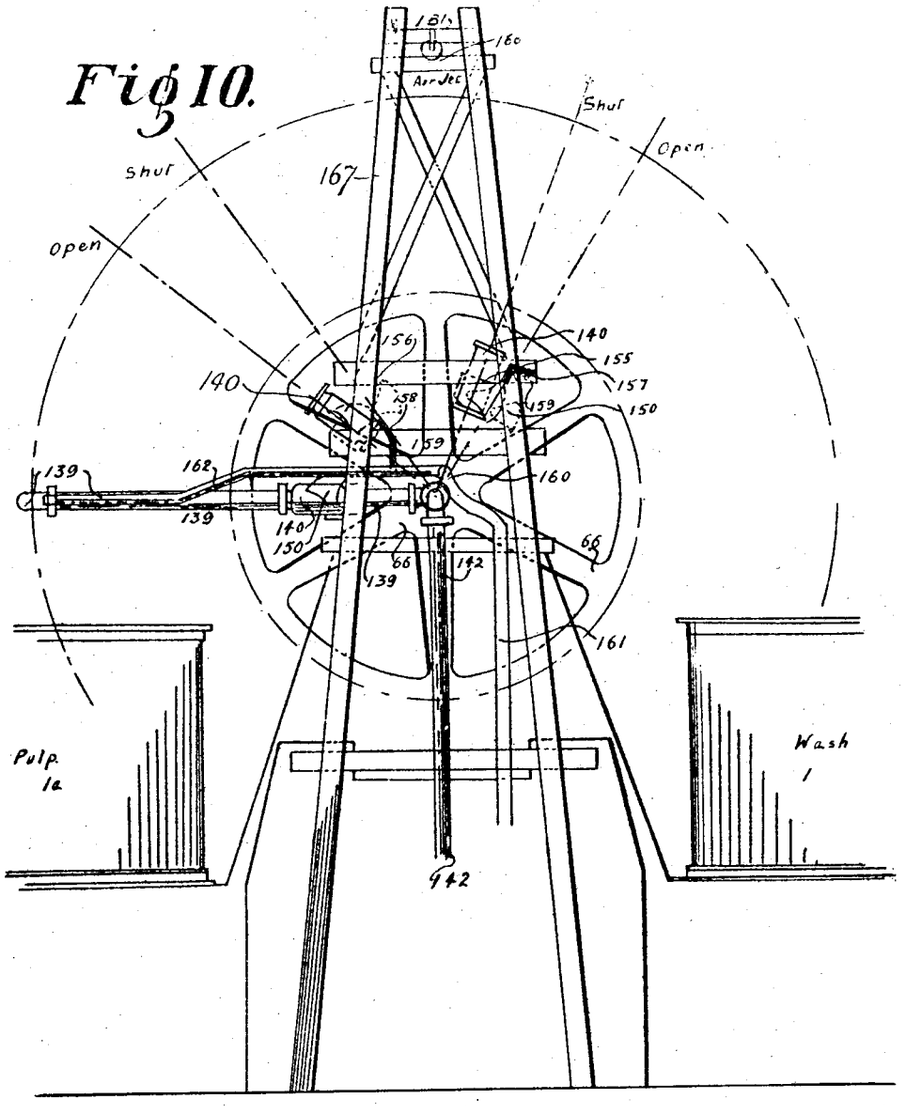
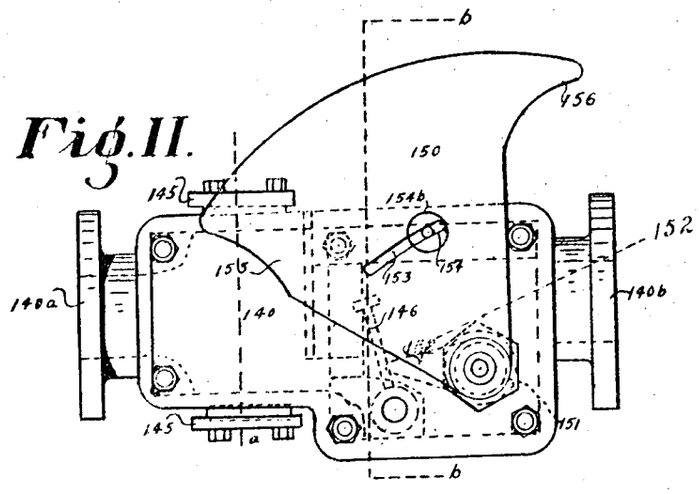


Fig. 11.



Alfred James
By his Attorneys
H.W. Williams & Co.

Fig. 12.

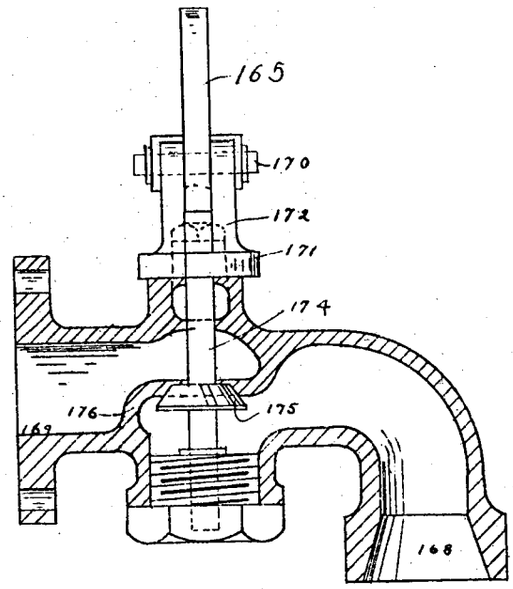


Fig. 13.

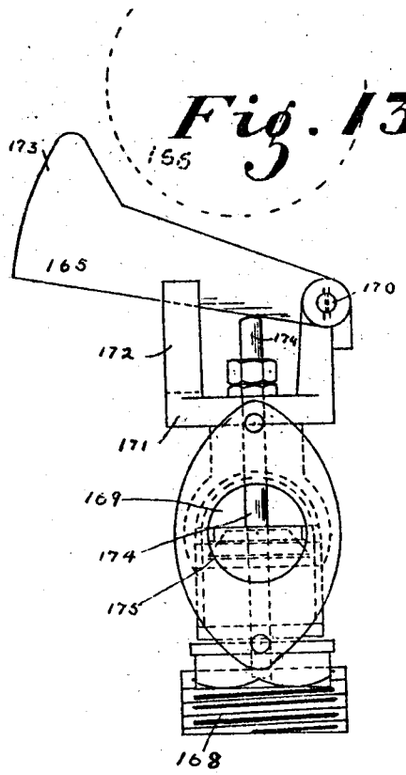
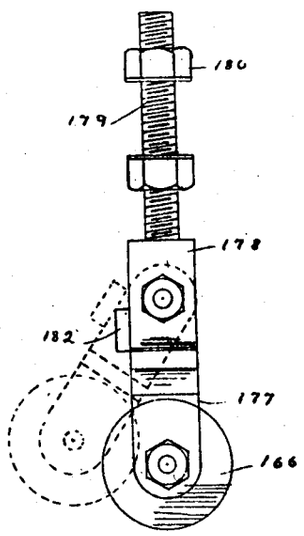
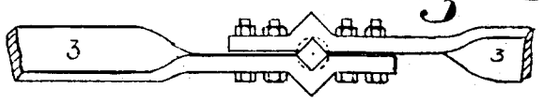


Fig. 14.



Alfred James
By his Attorneys
H. V. Williams & Co.

Fig. 15.



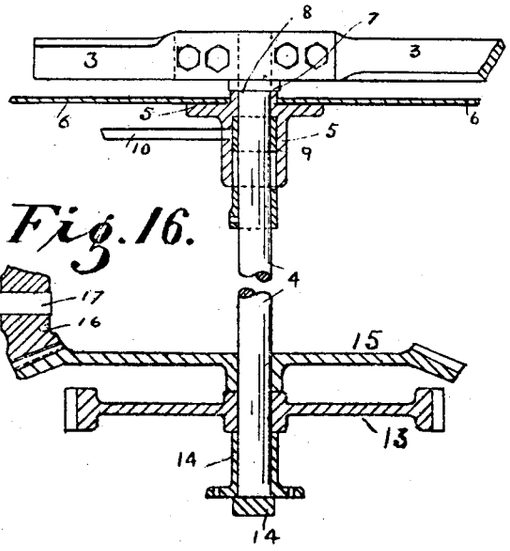


Fig. 16.

Fig. 17.

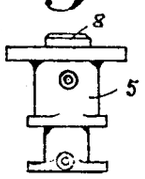
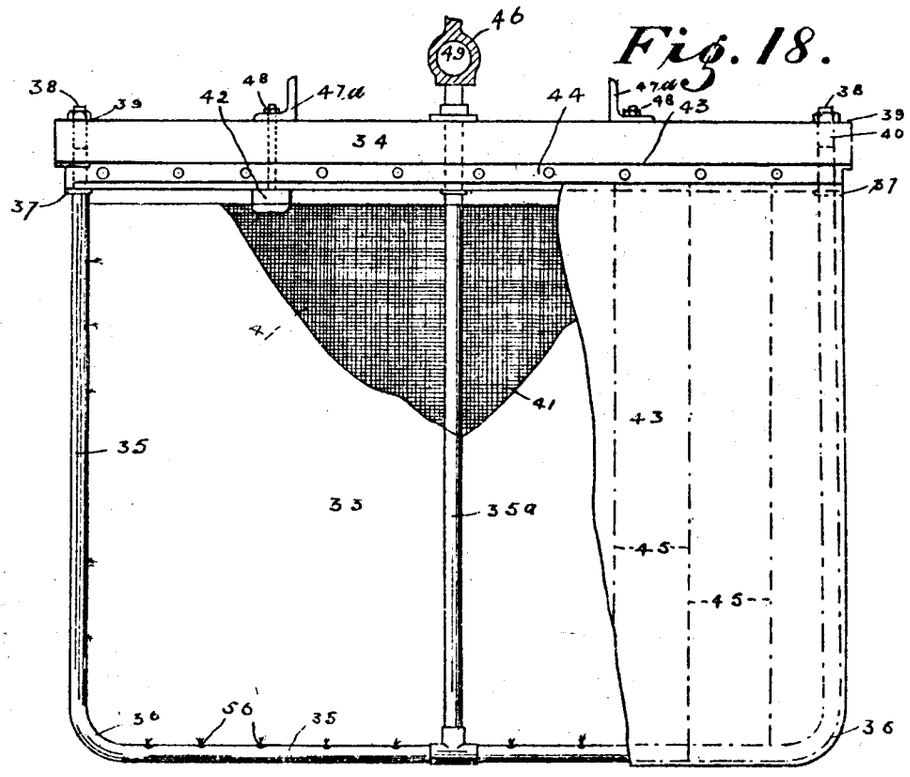


Fig. 18.



Alfred James
By his Attorneys
H. O. Williams & Co.

No. 141

OFFICE OF ECONOMIC BOTANIST,
SUPERINTENDENT, MYSORE GOVERNMENT MUSEUM,
Bangalore, dated 24th February 1914.

DIARY No. 6152.

FROM

G. H. KRUMBIEGEL, ESQ., F.R.H.S.,
Economic Botanist,
Superintendent, Mysore Govt. Museum,
Bangalore.

1913-1914
SECTION Gen : Mis
FILE No. 213 of 1913-14
Item No. 16

To

The Secretary to the Govt. of
H. H. the Maharaja of Mysore
General and Revenue Departments.

Sir,

I have the honor to acknowledge receipt of copy of a specification of an invention for "An improved filter for slimes pulp and the like". by Mr. Alfred James of Broad Street place. London, forwarded with your docket No. G. 6664-6/G.Sm. 213-13-14 dated 20th February 1914.

I have the honor to be,
Sir,
Your most obedient servant
G H Krumbiegel
Superintendent,
Govt. Museum.

Encl.

1913.-14.

From

G. H. KRUMBIEGEL, Esq., F.R.H.S.,
Economic Botanist,
Supt., Mysore Govt. Museum,
Bangalore.

To

The Secretary to the Govt.
of H.H. the Maharaja of Mysore
Genl and Rev. Depts.

Dated 24th February 1914.

Despatched 25th ——————

Received

General No. 141
No.

Enclosure No. ..

Acknowledging receipt of copy of a specification of an invention for "An improved filter for slimes pulp and the like" by Mr. A. James.

2712

M.G.D. 13]

MYSORE GEOLOGICAL DEPARTMENT.

DATED BANGALORE,.... 26-2-.....1914

No. 1974

DIARY No. 6187.

1913-1914
SECTION Genl. Mis
No. 213 of 1913-14
17

FROM

DR. W. F. SMEETH, M.A., D.SC., A.R.S.M., etc.,
State Geologist in Mysore.

To

K.R. Srinivasiengar, Esquire, M.A.,
Secretary to the Government of His Highness
the Maharaja of Mysore, Gen.& Rev.Depts.

SIR,

I have the honour to acknowledge the receipt of a copy of a specification of an invention for "An improved filter for slimes pulp and the like" by Mr.Alfred James of 2, Broad Street place, London, Mining Engineer, forwarded with your docket No.G.6664-6/G.M.213-13-14, dated 20th February 1914.

I have the honour to be,
Sir,
Your most obedient servant,

Registrar
for State Geologist in Mysore.

C.N.

20.

DIARY No. 6176.

H. V. WILLIAMS,
FOREIGN MEMBER,
CHARTERED INSTITUTE
OF
PATENT AGENTS, LONDON.

BANKERS:—
CHARTERED BANK OF INDIA,
AUSTRALIA AND CHINA,
LONDON AND CALCUTTA.

CABLES AND TELEGRAMS:—
"LOFZANG," CALCUTTA.
CODES {A. B. C. 5TH EDITION,
{PATENTS, B. SINGER'S.

18

H. V. Williams & Co.,

(ESTABLISHED 1901.)

Patent Agents & Engineers,

8, Esplanade East,

CALCUTTA.

No. 2563-C

February 24th 1914.

The Secretary to the Government of
H.H. The Maharajah of Mysore,
General and Revenue Department,
Bangalore.

Sir,

We have the honour to acknowledge receipt of your letter No. G. 6662/G. M. 213-13-12 dated the 20th February 1914, but the Order granting permission to file Mr. Alfred James;s specification was not found enclosed therewith as stated, and request that it may be forwarded by an early post.

We have the honour to be,

Sir,

Your obdient Servants,

H. V. Williams & Co.

G. R. S. 26]

12/3

File No. 213-13

Serial No. 19

Diary No. of letter replied to 6176

No. G 7301/ex 1

General and Revenue Secretariat

( )

, the 191 .

Date of issue 17/6/14

Signed by

To

Messrs N. V. Williams & Co

Patent Agents & Engineers,

8, Esplanade East, Calcutta

Gentlemen,

As requested in your letter of the 24th February 1914, I am directed to return herewith G.O. No. G5429 dated the 17th Jan. 1914, fin. 213-13-8 granting permission to Mr. Alfred James of London to file Specification of his invention for "An improved Filter for Slimes Pulp and the like", with the

over.

SUBJECT.

certificate at foot thereof duly filled in and signed.

I have &c,

W. Coffey
for Secretary

List of enclosures,

Copied by

Examined by

GPB—25,000—8-8-11.

No. 399/2268.

Central Office,

Bangalore, Dated 9th March 1914.

From

DIARY No. 6583

K.Krishnaiengar Esq., B.A., L.C.E.,

Offg: Secretary to Government,

Public Works Department, Bangalore.

1913-1914
SECTION Gen: Misc
FILE No. 213 of 1913-14
Item No. 20

To

K.R.Srinivasaiengar Esq., M.A.,

Secretary to the Government of Mysore,

General and Revenue Departments, Bangalore.

Sir,

I have the honour to acknowledge the receipt of a copy of specification of an invention for " an improved filter for slimes ~~slimes~~ pulp and the like ", by Mr.Alfred James, London, forwarded with your No.6664-6/G.M.213-13-14 dated the 20th February 1914.

I have the honour to be,

S i r,

Your most obedient servant,

Offg: Secretary to Government,

Public Works Department.

V.S.P.